

FIG. 1

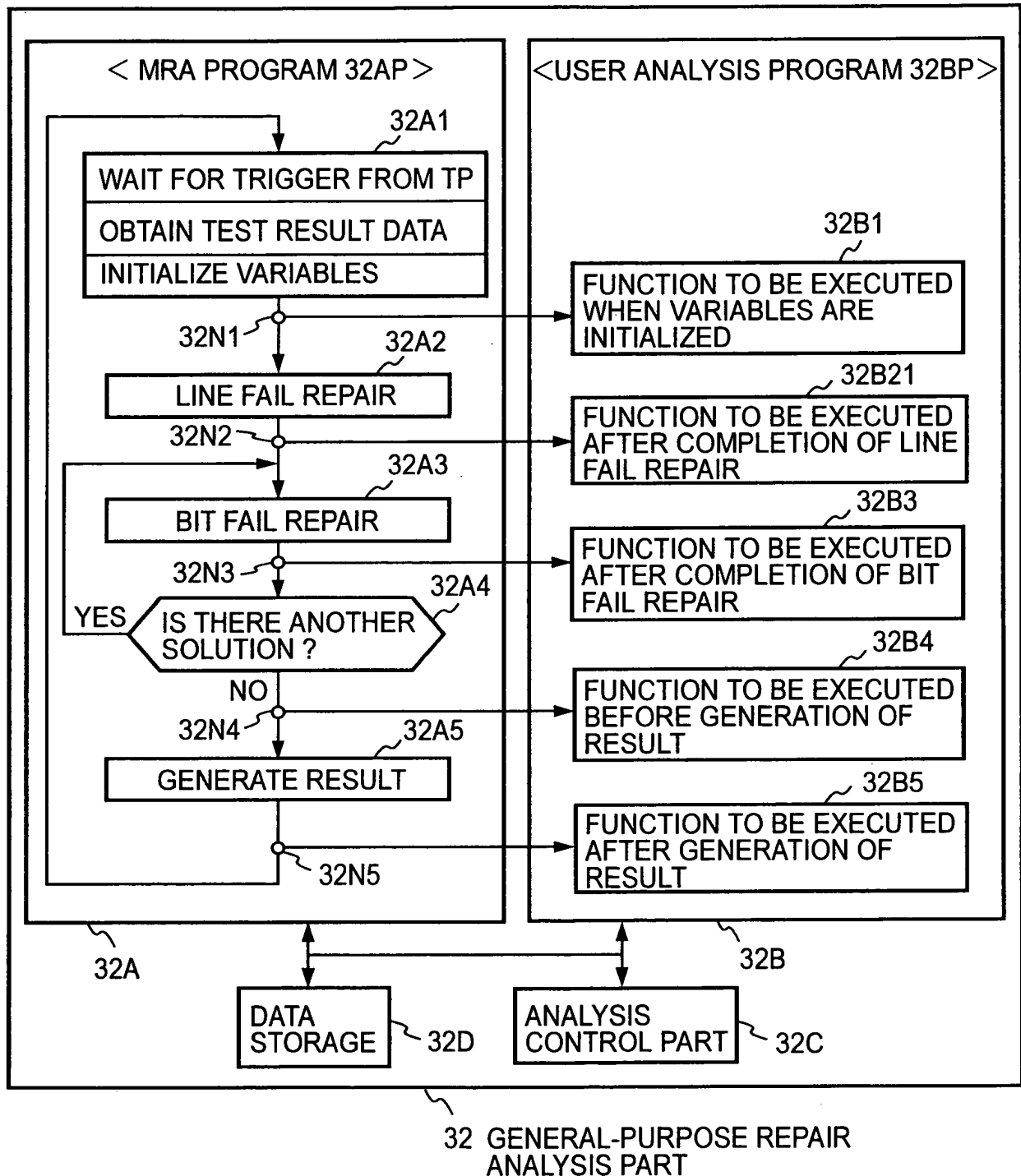


FIG. 2

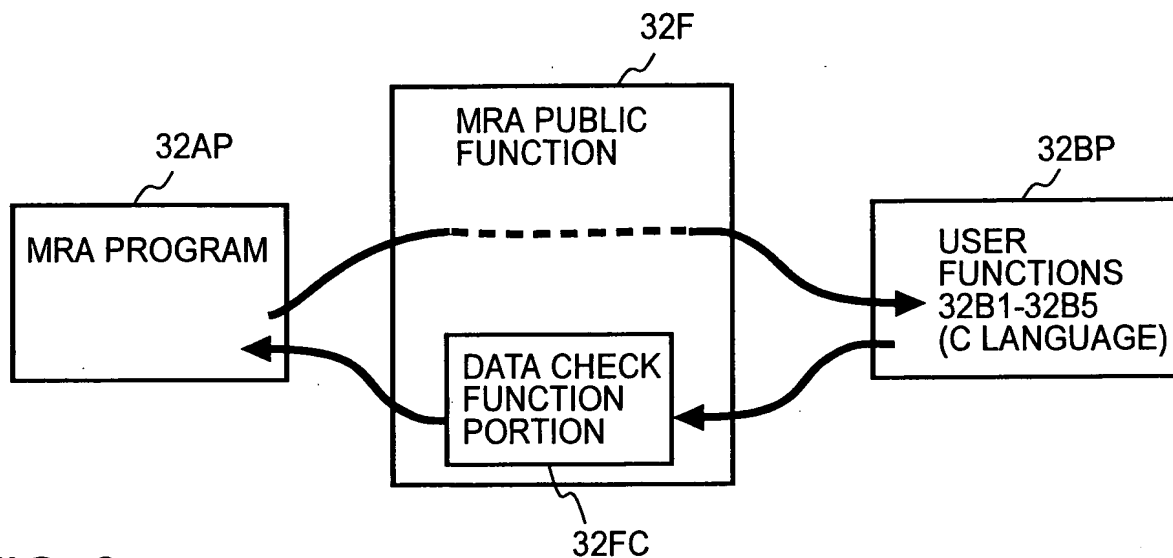


FIG. 3

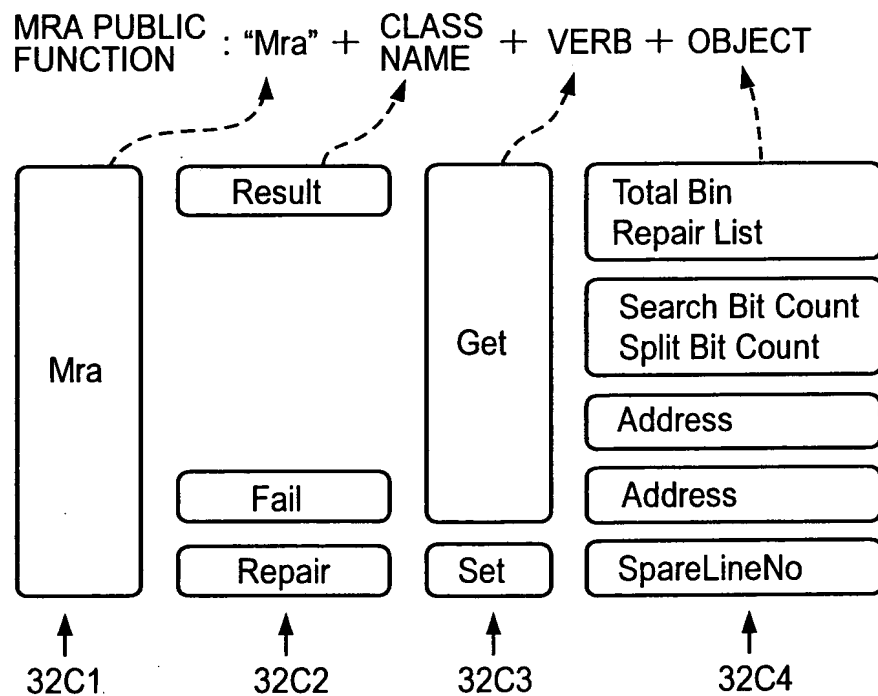


FIG. 4

FIG. 5

```

1  #include <MraLib. h>

2  static  MraRepairId_t  RepairIdList[MraSPARELINE_COUNT_MAX];
3  static  int             compare( const void *a, const void *b)
4  {
5      const MraRepairId_t  *A = a, *B = b;
6      int  blockA, blockB;
7      uint32_t  adrsA, adrsB;
8      MraRepairGetAddress( *A, &blockA, &adrsA);
9      MraRepairGetAddress( *B, &blockB, &adrsB);
10     if (  adrsA < adrsB)          return  -1 ;
11     if (  adrsA > adrsB)          return   1 ;
12     return                      0 ;
13 }

14 static  MraStatus_t addressCheckRow(int  blockGroupNo, MraDir_t dir)
15 {
16     MraRepairId_t *repairId = RepairIdList ;
17     int            blockNo0, blockNo1 ;
18     uint32_t      address0, address1;
19     int i, count ;
20     count = MraBlockGroupGetRepairList ( blockGroupNo, dir,
21                                           repairId, MraSPARELINE_COUNT_MAX);
22     MraQsort( repairId, count, sizeof(MraRepairId_t), compare);
23     for (i=0 ; i<count-1; i++) {
24         MraRepairGetAddress( repairId[ i ], &blockNo0, &address0);
25         MraRepairGetAddress( repairId[ i+1], &blockNo1, &address1);
26         if ( address0 == address1) return  MraNG ;
27     }
28     return  MraOK ;
29 }

30 MraStatus_t  SampleRuleCheck1(void *clientdata)
31 {
32     int  blockGroupNo ;
33     blockGroupNo = MraGetBlockGroupNo( ) ;
34     if ( addressCheckRow ( blockGroupNo, MraDIR_ROW) != MraOK) return  MraNG ;
35     return  MraOK ;
36 }

37 int  UserSetup ( void )
38 {
39     MraSetUserFunc("SAMPLE_RULE_CHECK1", MraPOINT_POST_REPAIR
40                  _LINEFAIL, SampleRuleCheck1,
41                  NULL );
42     MraSetUserFunc("SAMPLE_RULE_CHECK1", MraPOINT_POST_REPAIR
43                  _BITFAIL, SampleRuleCheck1,
44                  NULL );
45     return  0 ;
46 }
  
```

UF1

UF2

UF3

UF4

FIG. 6

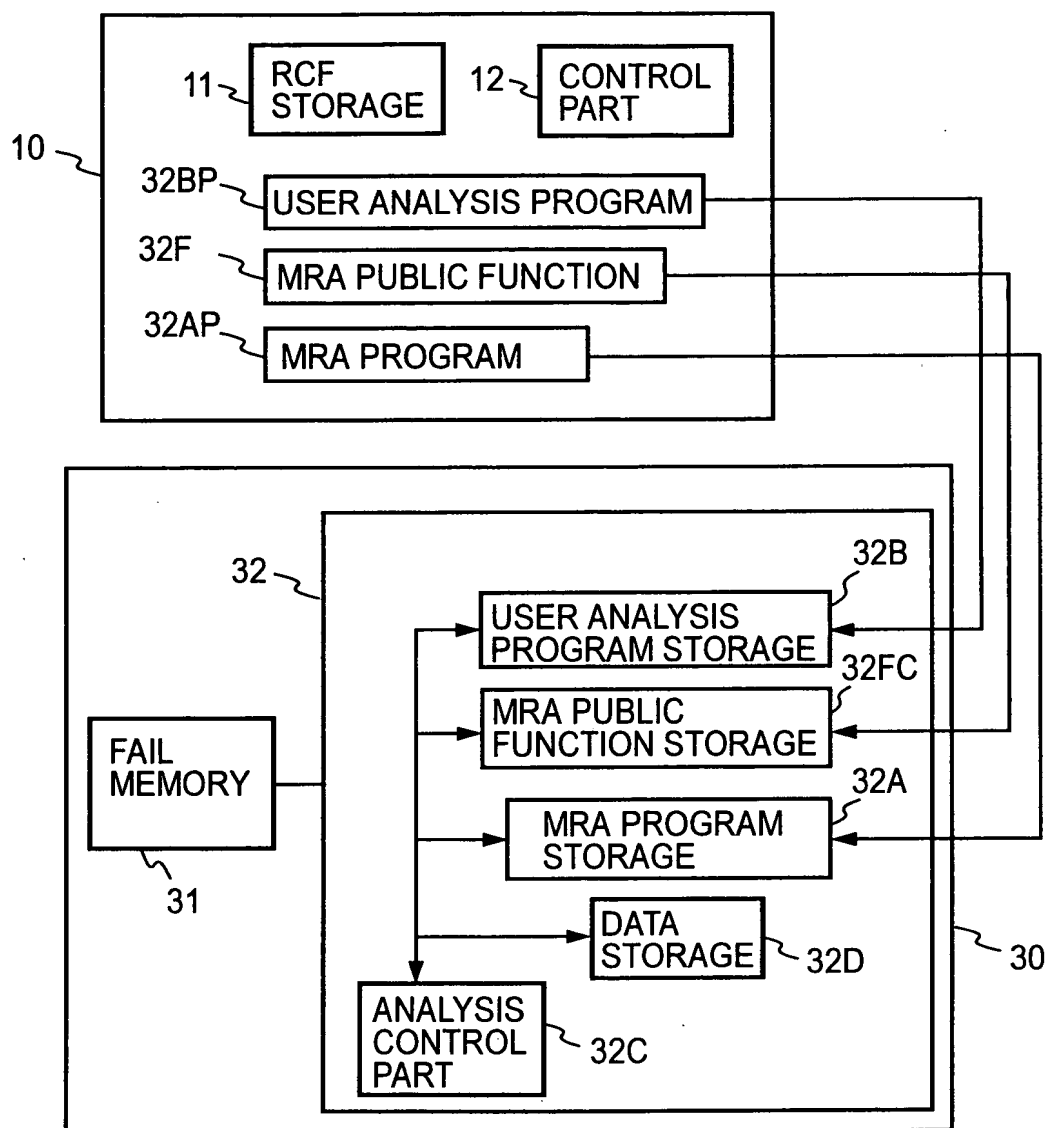


FIG. 7

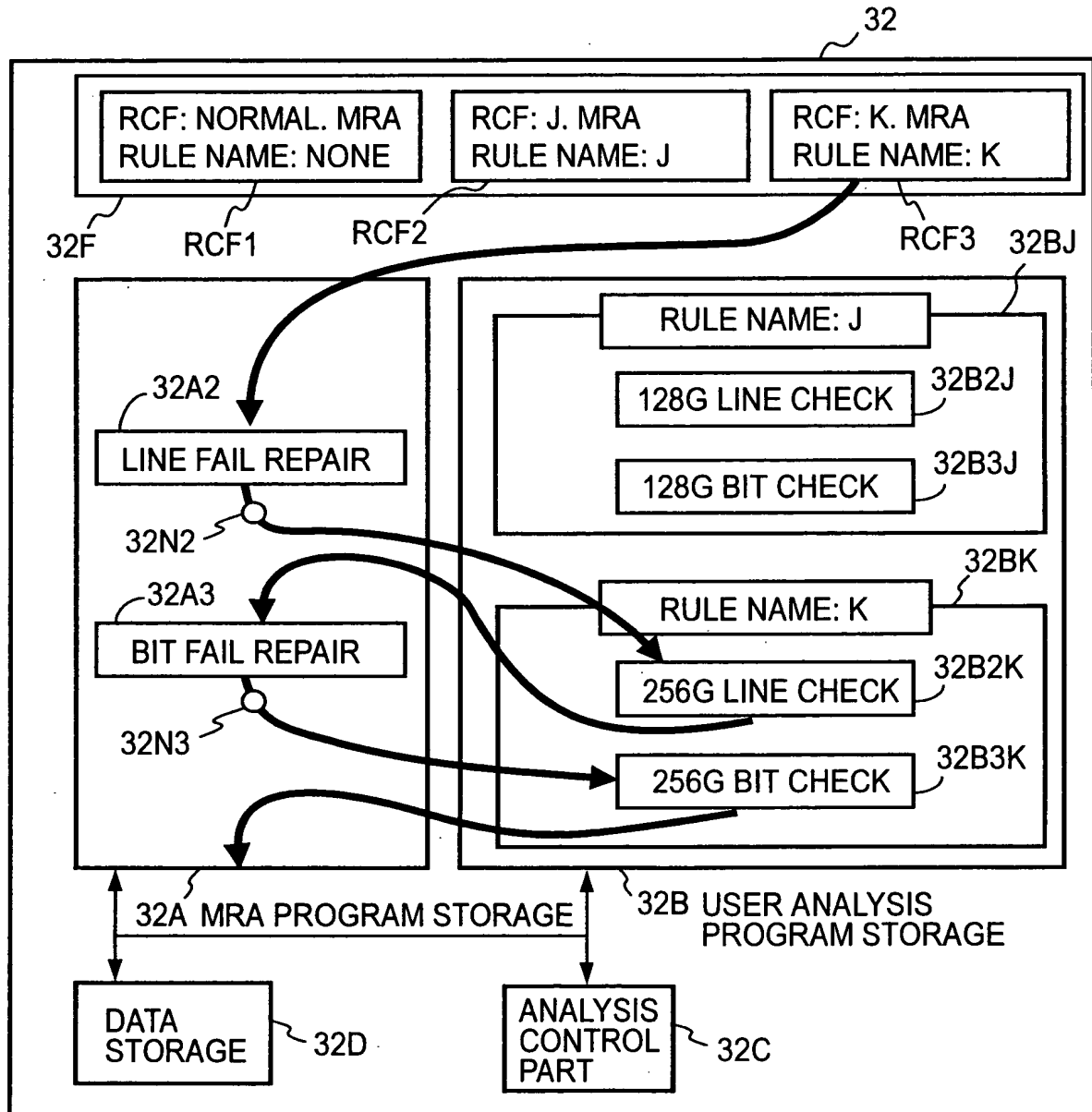


FIG. 8A

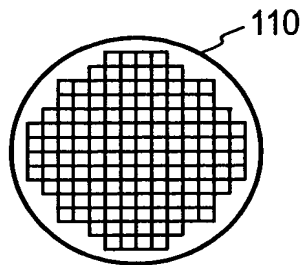


FIG. 8B

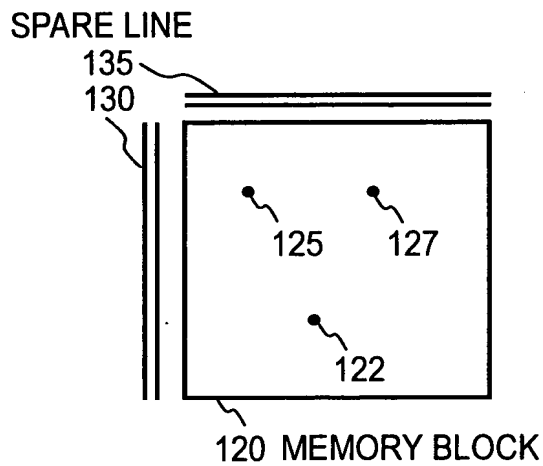


FIG. 8C

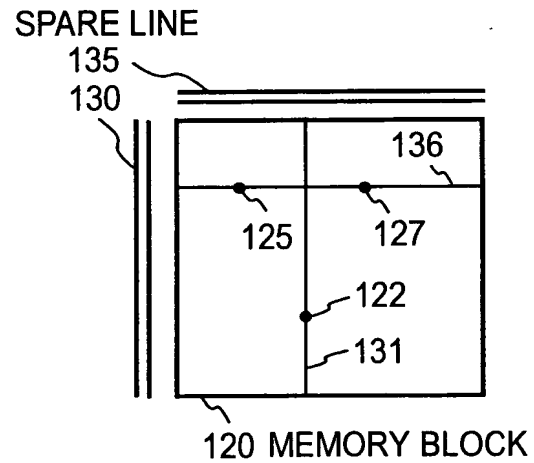


FIG. 9

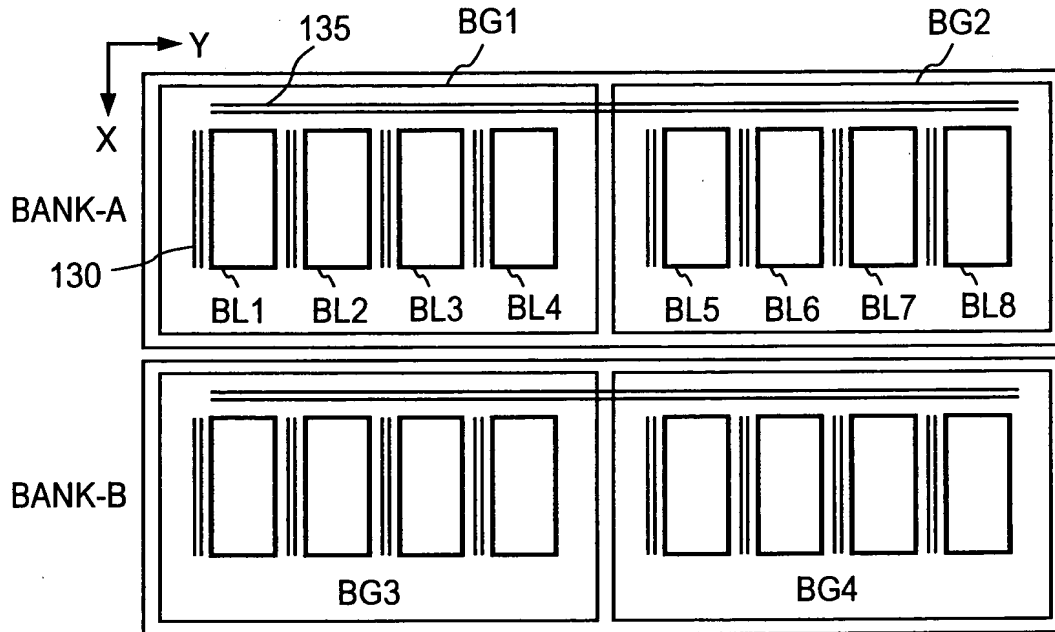


FIG. 10

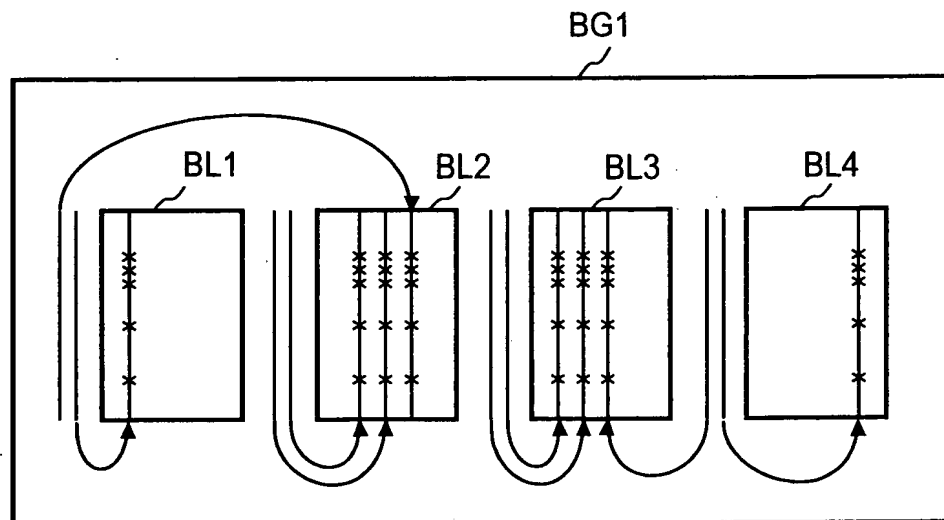


FIG. 11

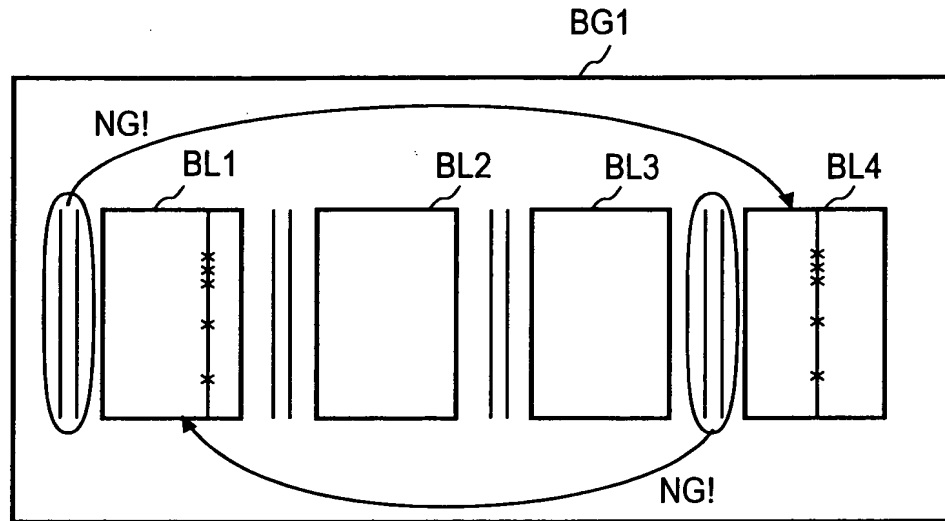


FIG. 12

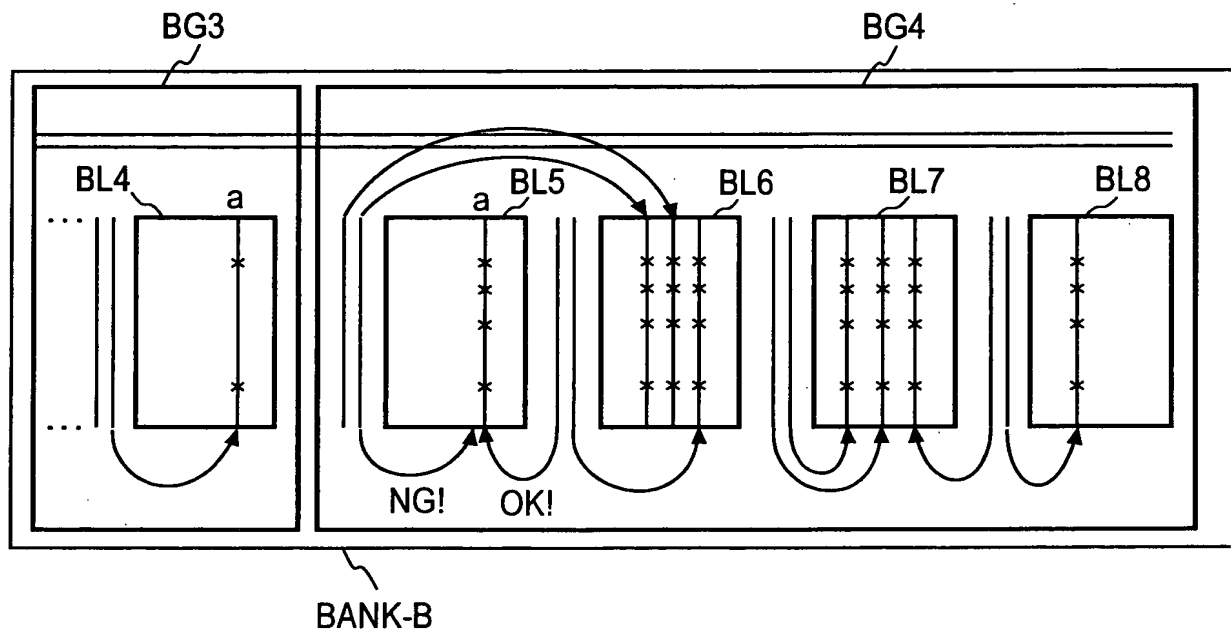


FIG. 13

